

are ignored by other systems that do not support embedded information (page 3, lines 2-4). When the DVD is played, the operating system examines all requested sector addresses of DVD data for addresses associated with one of the resource indications (e.g., page 3, lines 8-10). If an association is found, the operating system starts an application program and provides the one of the resource indications to the application program to obtain a resource (e.g., page 3, lines 10-12). An advantage of having the operating system examine the DVD addresses is that the DVD player software 22 need not be modified to support the obtaining of content external to the DVD (e.g., page 5, lines 10-12).

The foregoing features are broadly encompassed by claim 2, which recites, among other features, in an operating system, checking a digital versatile disc (DVD) for resource indications and sector address regions associated with said resource indications; while playing the DVD, in the operating system examining the sector addresses of requested DVD data for a match with the addresses associated with the resource indications; and if a match is found, in the operating system starting an application program and providing the resource indication having the matching associated address to the application program to obtain a resource external to the DVD while a DVD player software operates to play the DVD, wherein the resource indications and the associated sector address regions are stored on the DVD in a manner that they are ignored by systems that do not support embedded information. Claims 12, 21 and 29 recite a system, a computer readable medium, and an apparatus having elements performing similar functions.

On page 4 of the Office Action, the Examiner first appears to be citing the passage in the Kanazawa et al. patent that programs stored in a DVD 40 or another

external storage medium are loaded into a RAM 2 (col. 10, lines 28-30); and the passage in the Kanazawa et al. patent that a DVD playback control program 116 is actually composed of driver groups for controlling hardware and application programs for making title playback (col. 11, lines 16-20). The Examiner then appears to impermissibly glean through the Applicants' disclosure at pages 2-4 to conclude on page 5 of the Office Action that "In light of applicant's specification, using an operating system with some sort of extension is deemed met by Kanazawa."

Applicants respectfully traverse the Examiner's ultimate conclusion. The Examiner appears to use improper hindsight based upon Examiner's impermissible gleaning through the Applicants' disclosure itself to reach his ultimate conclusion that the claim is deemed obvious. Specifically, the Examiner appears to be reciting Applicants' specification disclosure of "Summary of the Present Invention" at page 2, wherein Applicants summarized a preferred embodiment in which "the embedded information is supported by the operating system, preferably an extension to the operating system," to assert at page 5 of the Office Action that "using an operating system with some sort of extension is deemed met by Kanazawa." Applicants respectfully submit that this is impermissible hindsight reconstruction of Applicants' claimed invention.

Further, the Kanazawa et al. patent relates to an audiovisual reproducing system which displays title information recorded on a DVD. Specifically, the Kanazawa et al. patent disclosure is premised on a user clicking a Web mark on a screen in order for the system to provide a Web access related to the stream information on the screen (abstract). This nature of user interaction has no

relationship to Applicants' claimed operating system capable of starting an application program to provide the resource indication having the matching associated address to obtain a resource external to the DVD while a DVD player software operates to play the DVD, as recited in claims 2, and as similarly recited in claims 12, 21 and 29. Further, the Kanazawa et al. patent would not have suggested resource indications and associated sector address regions being stored on a DVD in a manner that they are ignored by systems that do not support embedded information, as further recited in Applicants' claims 2, 12, 21 and 29.

On page 5 of the Office Action, the Examiner appears to be relying on an alternative assertion that "it would have been obvious to those skilled in the art at the time of the invention to modify Kanazawa by loading the program into the NT resource or an OS, as an extension, rather than a fully integrated program, as taught by Bugnion." Specifically, the Examiner relies on the disclosure in the Bugnion et al. patent that the Bugnion et al. virtual machine monitor is portable and requires only a simple extension (driver 390) of an operating system (which can be uninstalled when unused) and supports a full VMM (col. 15, lines 26-34).

However, Applicants respectfully submit that the Bugnion et al. patent does not cure the deficiencies of the Kanazawa et al. patent. The virtual machine monitor as taught by the Bugnion et al. patent merely relates to an isolated instance of a virtualized operating system resident within a conventional host operating system, but this is a virtualized operation that is completely devoid of 1) checking a digital versatile disc (DVD) for resource indications and sector address regions associated with resource indications; 2) starting an application program and providing the resource indication having the matching associated address to the application

program; and 3) obtaining a resource external to the DVD while a DVD player software operates to play the DVD, as recited in claims 2, and as similarly recited in claims 12, 21 and 29. Further, the Bugnion et al. patent disclosure of a virtualizing computer systems as a whole would not have taught or suggested specifically resource indications and associated sector address regions being stored on a DVD in a manner that they are ignored by systems that do not support embedded information, as further recited in Applicants' claims 2, 12, 21 and 29.

On page 7 of the Office Action, the Examiner again appears to impermissibly glean through the Applicants' specification disclosure to conclude obviousness. Specifically, the Examiner relies on the following three citations to assert obviousness against "wherein the resource indications and the associated sector address regions are stored on the DVD in a manner that they are ignored by systems that do not support embedded information," as recited in claims 2, 12, 21 and 29:

- The Kanazawa patent disclosure that " Still another object of the present invention is to provide a system which enables DVD video titles to be combined with the Internet by an effective use and simple expansion of the DVD standard without changing the standard and which realizes a new service where DVD video titles are combined with hypermedia contents, such as HTML files, provided on the Internet." (Col. 2, lines 1-7.)
- Applicants' own disclosure that "In one embodiment, the resource indications and associated sector address regions are stored in a

vendor specific field of a text portion of the file. Other DVD players will not access this vendor specific field." (Page 3, lines 1-7.)

- The Olson patent disclosure that " Typically the operating system 26 will load device drivers 28 to permit access to various peripheral devices. Referring again to FIG. 3, in one embodiment of the present invention the operating system 26 loads a device driver 28' that is aware of the second memory region 42 and is able to access its contents." (Col. 5, lines 30-35.)

Applicants respectfully traverse the Examiner's ultimate conclusion. The Examiner again appears to impermissibly glean through the Applicants' disclosure, this time at page 3, lines 1-7, to conclude on page 8 of the Office Action that "Based on the analysis above, it would have been obvious to those skilled in the art with Kanazawa, Bugnion, Olsen and applicant's own disclosure, in front of themselves would have rendered it obvious in view of a simple expansion of the DVD standard without changing the standard."

Even if the Olson patent was considered in the combination as the Examiner have suggested, the Olson patent does not cure the deficiencies of the Kanazawa patent. The Examiner relies on the passage of the Olson patent in which an operating system 26 loads a device driver 28' that is aware of a second memory region 42 to access its contents (col. 5, lines 30-35), apparently for the asserted proposition that "there exist a region having data which without a driver that is aware of the existence thereof, will effectively not use, not access or would ignore the region, in view of no knowledge of its existence" (page 8 of the Office Action).

Applicants respectfully disagree with the Examiner's ultimate conclusion. The Examiner has reached his conclusion by taking out of context memory region 42 of a ROM 22 memory, which has no relationship to the claimed context of "resource indications and the associated sector address regions are stored on the DVD," as recited in claims 2, 12, 21 and 29. The disclosed utilizations of ROM or NVRAM memories in the Olson patent would not have taught or suggest, when considered individually or in the combination as the Examiner has suggested, at least the claimed features of an operating system obtaining a resource external to a DVD, wherein the resource indications and the associated sector address regions are stored on the DVD in a manner that they are ignored by systems that do not support embedded information, as recited in claims 2; and as similarly recited in claims 12, 21 and 29.

At least for the foregoing reasons, Applicants' claims 2, 12, 21 and 29 are allowable. The remaining claims depend from the respective independent claim and recite additional advantageous features which further distinguish over the documents relied upon by the Examiner. As such, the present application is in condition for allowance.


All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the application is in condition for allowance and a Notice of Allowance is respectfully solicited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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